

SWAN CENSUSES ON MINTO FLATS, ALASKA AND SURROUNDING AREAS

June 2-4 and August 27-29, 2003

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ABSTRACT

Early and late summer censuses of Trumpeter Swans (*Cygnus buccinator*) on nesting habitat on the Minto Flats and surrounding areas were completed on June 2, 3 and 4 and August 27, 28 and 29, 2003, respectively. Habitat within six USGS quadrangles were flown (Fairbanks C4, C5, D4 and D5 and Livengood A4 and A5). Single swans, pairs, flocks and active nests were recorded on the early summer census and single swans, pairs, flocks and broods were recorded on the late summer census. Swans recorded during the early summer census were: 126 single birds, 451 pairs, 242 flocked birds (n=28), and 1270 total birds. The early summer census also documented 262 active nests. Swans recorded during the late summer census were: 84 single birds, 430 pairs, 320 flocked birds (n=37), 1266 total adult birds, and 525 cygnets. One hundred eighty-six broods were recorded, with an average brood size of 2.8 birds. Broods ranged in size from 1 to 6 young. The age ratio of young to adult swans recorded during the late summer census was 0.4.

INTRODUCTION

Late summer swan censuses of nesting habitat on the Minto Flats were initiated in 1968, with the first dual censuses (early and late summer) of habitats within Livengood A4 and A5 and Fairbanks D4 and D5 USGS quadrangles occurring in 1982. Early summer censuses of habitats within Fairbanks C4 and C5 USGS quadrangles were not conducted until 1993 and 1989, respectively. Temporal coverages of these areas have been variable, with some of the data collected during the Alaska-wide Trumpeter Swan census (Conant et al. 2001), which is conducted every five years in late summer. The swan habitat flown in 2003 (Fairbanks C4, C5, D4, D5 and Livengood A4, A5) is within the Lower Tanana Unit of the Alaska-wide Trumpeter Swan census area. The lower Tanana Unit accounted for 29 per cent of all swans recorded during the most recent state-wide census (Conant et al. 2001). Although there have been several observations of Tundra Swans (*Cygnus columbianus*) summering on the Minto Flats, it is believed that nearly 100 per cent of the swans that nest on the Minto Flats are Trumpeter Swans.

Recent plans for gas exploration and development in this area have prompted a need for information about the status of local swan populations and location of active nests. These censuses were conducted to determine the current status of the Minto Flats Area swan population and provide this information to planners.

METHODS

An intensive effort was made to find and record all swans and active nests within six USGS quadrangles (Fairbanks C4, C5, D4, D5 and Livengood A4, A5). All potential swan habitat within these quadrangles was flown on June 2, 3 and 4, 2003 and again on August 27, 28 and 29, 2003. Aircraft used for the 2003 censuses was a Cessna 206 on amphibious floats. A system of parallel tracks was used to assure coverage of all potential breeding habitat within each quadrangle. The aircraft was flown at an altitude of 100-150 meters (330-500 feet) above

ground level, with a groundspeed of 100 knots or less. Locations and numbers of birds and active nests were recorded using an onboard computer system with software developed by John I. Hodges, USFWS Migratory Bird Management, Juneau. Birds were identified as single birds, pairs, flocked birds and cygnets. Global Position System (GPS) locations of sightings were entered into the onboard computer and later downloaded into ARCVIEW, version 3.3 for display and analysis.

RESULTS

During the June 2, 3 and 4, 2003 census, swans recorded within the six USGS quadrangles flown were: 126 single birds, 451 pairs, 242 birds in 28 flocks (range = 3 to 39 birds), and 262 active nests (Table 1).

Quadrangle	Single Swans	Pairs	Flocks	Active Nests	Cygnets (Broods)
Livengood A4	22	104	49 (3)	55	0
Livengood A5	34	88	47 (9)	52	0
Fairbanks D4	25	79	69 (7)	37	0
Fairbanks D5	40	121	63 (7)	83	0
Fairbanks C4	1	21	0	13	0
Fairbanks C5	4	38	14 (2)	22	0

Table 1. Observations for six USGS quadrangles - June 2, 3 and 4, 2003.

The late summer census documented 84 single adult birds, 430 pairs, 320 adult birds in 37 flocks (range = 3 - 33), and 525 cygnets (186 broods, average brood size = 2.8, range = 1- 6) (Table 2).

Quadrangle	Single Swans	Pairs	Flocks	Cygnets (Broods)
Livengood A4	17	100	11 (1)	103 (35)
Livengood A5	15	65	165 (14)	82 (28)
Fairbanks D4	12	76	76 (9)	89 (31)
Fairbanks D5	36	133	59 (11)	187 (70)
Fairbanks C4	1	23	9 (2)	22 (9)
Fairbanks C5	3	33	0	42 (13)

Table 2. Observations for six USGS quadrangles - August 27, 28 and 29, 2003.

Data from the 2003 Minto Flats Area Swan Censuses was compared with that from previous years. Data from prior censuses of the area were obtained from the USFWS, Migratory Bird Management Office in Juneau. Prior to 1989, censuses were not conducted within Fairbanks C4

and C5 quads and complete censuses of these quads were not done in 1993, 1994 and 1996. For this reason, only data from Fairbanks D4 and D5 and Livengood A4 and A5 quads were compared. The comparison is also limited to those years in which complete censuses of all four quadrangles were done. Based on 2003 early census data from Fairbanks D4 and D5 and Livengood A4 and A5 quadrangles, the number of swans and the number of active nests within these four quadrangles increased over previous early censuses. Numbers of birds and nests recorded during early and late censuses for these years are compared in Figures 1 and 2, respectively. Age ratios, based on the number of adult birds and cygnets recorded during late censuses, are compared in Figure 3. Locations of swans and nests recorded during the early and late summer censuses, 2003, can be found in the appendix to this report. Records displayed which are outside the quadrangle boundaries were not included in the data used for this report.

DISCUSSION

Low water levels in some of the areas flown during the early 2003 census may have caused birds that would normally have used these areas to be displaced to other nesting habitats with better water conditions. In spite of water conditions, the 2003 censuses of the Minto Flats Area documented high numbers of swans, nests and broods, when compared to those reported by previous censuses.

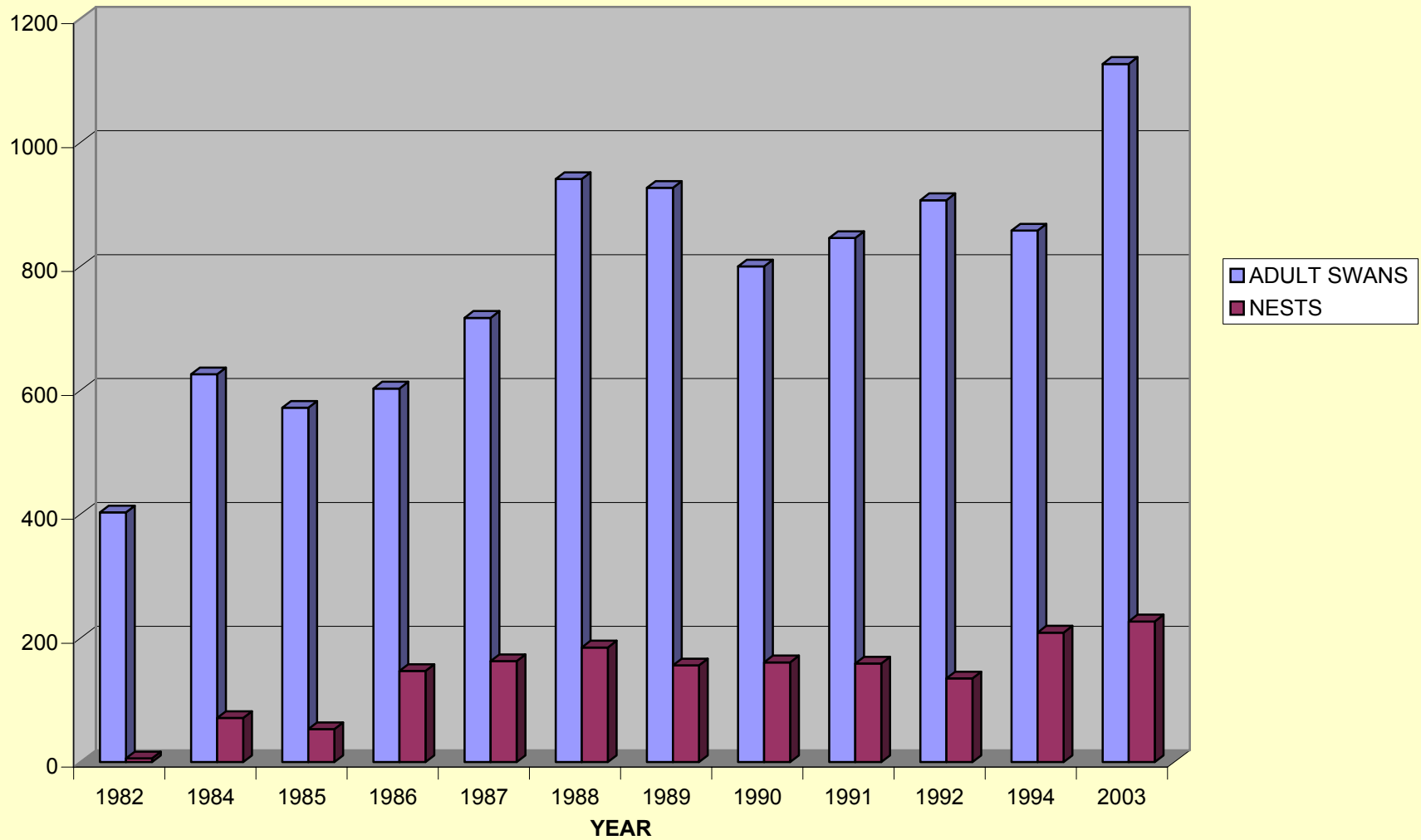
ACKNOWLEDGEMENTS

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LITERATURE CITED

Conant, B., J. I. Hodges, D. J. Groves, and J. G. King. 2001. Alaska Trumpeter Swan Status Report, 2000. U.S. Fish and Wildlife Service, Waterfowl Management, Juneau, Alaska.

**FIGURE 1: SWANS RECORDED DURING EARLY SEASON CENSUSES
MINTO FLATS AREA, ALASKA**



**FIGURE 2: SWANS RECORDED DURING LATE SEASON CENSUSES
MINTO FLATS AREA, ALASKA**

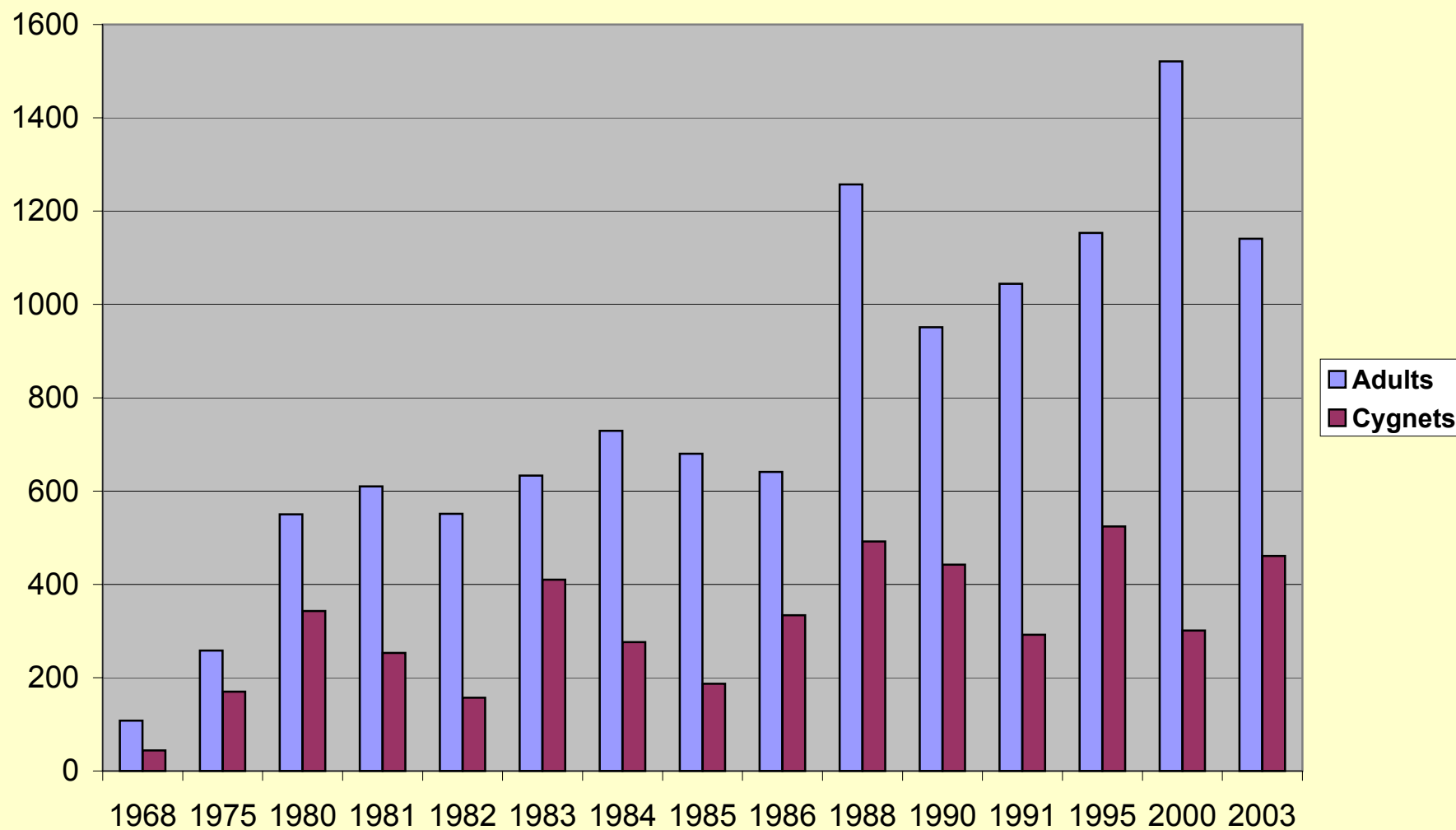


FIGURE 3: AGE RATIOS - MINTO FLATS AREA SWAN CENSUSES

